

Optical Pickups Diffracting One of Two Laser Beams to a Single Detector

ABSTRACT OF THE DISCLOSURE

An optical pickup with two lasers for CD and DVD uses a grating to diffract one beam to the detector used by the other beam. This requires only one beam to be diffracted, allowing the diffraction pattern to be varied to compensate for different spacings between the lasers. A single, 4-quadrant detector is used to detect the returned beams from both lasers. The returned beam of the first laser passes through the grating element undiffracted, by passing through a portion without a grating pattern. The position of the detector is aligned with respect to this first beam. The grating diffracts the returned beam from the second laser to the same detector. The separation of the grating from the detector can be adjusted so that the returned beam from the second laser is also perfectly aligned with the detector.

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